BRUHAT BENGALORU MAHANAGARA PALIKE

Name of Work : Detailed Estimate for Providing drinking Water Sinking of borewell and pipe line in Ward No -11 Kuvempunagara.

H/A : P 3293 14th Finance Commission Works - Drinking Water

Job Code : 011-19-000006	*Est. Cost Rs.20.00 Lakhs*
Job Code : 011-19-000088	*Est. Cost Rs. 30.00 Lakhs*
	Total Cost Rs.50.00 Lakhs

Sl. No.	Description of Item	Unit	No.	L	B	D	Qty.	Rate	Amount
	DRILLING OF BORE WELL								
1	Geophysical Investigation of site for sinking Borewell for supplying drinking water to the habitation either through the Hand Pump, MWS or P.W.S.S. by vertical electrical sounding by adopting Venner or Schlumbergers's method, including reconnaissance survey of geological formation, Geophysical investigation of existing Ground Water in the vicinity, its quality, quantity & acceptability of the users indicating the location of site, recommended depth of casing pipe required to seal the top unconsolidated formation including an extra depth of 1.0 metere in consolidated formation for proper seating of casing pipe, depth of drilling required to cover full depth of aquifer proposed to be tapped, probable yield and other information required including transportation of instrment and accessories to work site, engaging technical personal and labour required etc. (P.48/I.9.4) PHE SR 2012-13.	Each BW							
			5				**5**	1882.00	**9410.00**
2	Sinking of Borewell of 165mm dia clear using super fast hydraulic rig of capacity 250 PSIG & above 900 CMF & above in all strata including over burdern upto 20 M. fixing of casing pipes, collars and cap with necessary cutting, threading and welding including transportation of rig and supporting vehicle, crew charges and cost of consumables etc., complete including yield testing at the final depth with a minimu working of compressor for one hour (excluding cost of casing pipes, collars, cap etc.,) (P. No.41 I. No. 9.1) PHE SR. 2012-13	Rmtr							
a	0.00 to 50.00 mtrs		5	50.00			**250.00**	306.00	**76500.00**
b	50.00 to 100.00 mtrs		5	50.00			**250.00**	400.00	**100000.00**
c	100.00 to 150.00 mtrs		5	50.00			**250.00**	445.00	**111250.00**
d	150.00 to 200.00 mtrs		5	50.00			**250.00**	470.00	**117500.00**
e	200.00 to 250.00 mtrs		5	50.00			**250.00**	544.00	**136000.00**
f	250.00 to 300.00 mtrs		5	50.00			**250.00**	583.00	**145750.00**

Bangalore

Sl. No.	Description of Item	Unit	No.	L	B	D	Qty.	Rate	Amount
	KSRB13-8 : Providing and fixing to wall, ceiling and floor,mediumdensity polyethylene pipes 6.00 kgs/sq.cm working pressure of outside diameter 160mm with special flange, compression type fittings, wall clips,making good the wall, ceiling and floor including cost of all materials, labourcharges, HOM and testing completeasperspecifications.Specification No.KBS 13.2.15.1 / 13.9 for internal water supply connection.(P.95 -96 / I .N 13.70.7 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Rmtr							
			5	30.00			**150.00**	677.16	**101574.00**
	Basic Rate	627.00							
	Add Area Weightage 8%	50.16							
	Total	677.16							
3	Supply of ISI Mark 175 mm nominal Bore, Plain end Steel casing Pipe - grade of Steel Fe 410 of wall thicjkness 5.4 mm thick confirming yo IS 4270:2001 and latest amendments, electric resistance welded steel tube material and confirming to IS 1387/1993 and manufactured by basis open herth electric or basis oxygen process in random length of 5 to 7 mts. Both ends threaded confirming to IS 554/1985, one end fixed with socket confirming to IS 4270:2001 and the other end with screwed pipes. All pipes shall be reasonably free from defects. The tubes shall be reasonably 25.10kg/mtr. (Inclusive of all taxes and durties). Prices included Collar-medium duty (Material Component P.No.II/1.53)	Rmtr							
			5	50.00			**250.00**	1325.00	**331250.00**
6	Supplying PVC Pipes 10kg/sqm 250mmdia PVC (casing pipe) (P.No .XXXV / Sl.no.892 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19))	Rmtr							
			5	20.00			**100.00**	2203.39	**220339.00**
4	Providing 175mm dia Bore Cap & Clamp Set (P.No. XLVII / Sl.no.17 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Set							
			5				**5**	1800.00	**9000.00**
5	Providing 175mm dia M.S Collar (P.No.III/I.86) PHE S.R.2012-13	Each							
			50				**50**	150.00	**7500.00**

Sl. No.	Description of Item	Unit	No.	L	B	D	Qty.	Rate	Amount
	PUMPING MACHINERY								
6	Supply and delivery at sire brand new submersible PUMPSET suitable for borewell of 150mm dia and having declared duty conditions as detailed below and satisfying performance characteristic for pump and motor as declared by Bureau of Indian Standards. The pump should confirm to IS:8034-1976 (with all its latest amendments) and should bear the ISI certification mart IS 8034-1976. The pumpset should consist of bronze impellers. Discharge: 7500 lph, Head: 102.88 mts, 15.00 HP30 Stage Atalanta, Suguna, CRI KIRLOSKAR and other equipment pump 15.00 HP / 11 KW (30 stages) (P.No. XLII / Sl.no.43 PW, P & IWTD, BENGALURU CIRCLE - SR 2018-19)	Set							
			5				**5**	63498.00	**317490.00**
7	Submersible Cables: Supply and delevery brand New best make PVC insulated cable of flat 3 core (Sheathed) of nominal cross sectional area to IS: 694-1977 with latest amendments and ISI mark 1x3x6.00 Sq mm (P.No. XLVII / Sl.no.8 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Rmtr							
			5	380.00			**1900.00**	144.00	**273600.00**
8	Supply and delivery of Brand New gate Valve of 50mm dia size confirming to IS: 778-1984 with latest amendments with ISI mark (P.No. XLVII / Sl.no.15 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Each							
			5				**5**	1800.00	**9000.00**
9	Supply and delivery of Brand New best make non return valve of 50mm dia size confirming to IS: 10805-1986 with latest amendments with ISI mark (P.No. XLVII / Sl.no.16 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Each							
			5				**5**	1800.00	**9000.00**
10	Supply, Installation testing and commissioning of approved make **heavytubes (Class 'C') confirming to as per IS1239 Part - I** (25mm Nominalbore 4.05mm thick @ 2.97 Kg/m, 32mm Nominal bore 4.05mm thick@ 3.84 Kg/m,40mm Nominal bore 4.05mm thick @ 4.43 Kg/m,**50mmNominal bore 4.47mm thick @ 6.17 Kg/m,** 65mm Nominal bore 4.47mmthick @ 7.90 Kg/m, 80mm Nominal bore 4.85mm thick @ 10.10 Kg/m,100mm Nominal bore5.40mm thick @ 14.40 Kg/m,150mm Nominal bore5.40mm thick @ 21.20 Kg/m, Such as Tees elbows check nuts unions,Flanger, Nipples etc. including cutting welding, Trending fixing on walls,ceiling (Using 41-Tech pipe/M.S.angle supports work includes two coatsof metal primer and two coats of Red enamel paint etc.including cost ofmaterials, labour, HOM complete as per specifications. (P.371 / I .N 40.120.6 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Rmtr							
	Basic Rate	993.00	5	170.00			**850.00**	1072.44	**911574.00**
	Add Area Weightage 8%	79.44							
	Total	1072.44							

Sl. No.	Description of Item	Unit	No.	L	B	D	Qty.	Rate	Amount
11	Meter and Panel Board: Supply and delivery of meter and panel board unit one number of MS box of size 300 x 120mm size fabricated out of 2mm thick sheet metal with sealable door arrangement for mounting the CTS(if any) cutouts 3 phase dia 4 wire energy meter and cable box complete. A transparent glass piece should be provided where the energy meter reading could be read. b. Panel Board (15HP) One number of cubicle type of control panel board to operate on 50c/400/400v (P.No. XLVII / Sl.no.12 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19	Each							
			5				**5.00**	15500.00	**77500.00**
13	Commissioning of work of pumpset including aligning and balancing with all necessary erection of material and labour including supply and erection of two pair of supporting clamps. One borewell cap, cable clips and water tight gland cable protectors, bolts nuts, valves and gauges etc., all job including fixing sluice valve, non return valve etc., and connecting deliver side of pumpset to rising main etc., complete	Each							
			5				**5.00**	4500.00	**22500.00**
12	Supplying & Fixing 50mm G.I. Union (P.No .XXXIX / PW, P & IWTD,SOUTH ZONE - SR 2016-17)	Nos							
			5				**5**	223.70	**1119.00**
13	Supplying & Fixing 50mm Elbow (P.No .XXX I X / PW, P & IWTD,SOUTH ZONE - SR 2016-17)	Nos							
			15				**15**	111.80	**1677.00**
14	Supplying & Fixing 50mm G I Nipple (P.No .XXX I X / PW, P & IWTD,SOUTH ZONE - SR 2016-17)	Nos							
			15				**15**	104.30	**1565.00**
15	Supplying & Fixing 50mm Collar (P.No .XXX I X / PW, P & IWTD,SOUTH ZONE - SR 2016-17)	Nos							
			15				**15**	103.00	**1545.00**
16	Fabricating supplying and mounting MS box made out... SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 2 coats of red oxide primer paint and finally finished with approved colour enameled metal paint etc., complete. (P 49/I.6.40 ELE SR 2014-15)	Sq.cms							
	14 SWG		5x2	100.00	100.00		**100000.00**	0.37	**37000.00**

Sl. No.	Description of Item	Unit	No.	L	B	D	Qty.	Rate	Amount
17	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc., and painted with 2 coats of red oxide and then two coats of approved paint.(32.9a) (P 49/I.6.39 ELE SR 2014-15)	Mtr							
	50x50x6mm		5	6.00			**30.00**	338.00	**10140.00**
18	Supplying of **TPST** with rewirableporcelain channels in SM enclosure. (P 44/I.6.5 ELE SR 2014-15)	Each							
	32 Amps		5				**5**	1868.00	**9340.00**
19	Supply and fixing polished **wood board** made of not less than 15mmthick plank on both sides with planks made out of not more than 2 pieces and fixing the same to the wall using tapered inverted wooden plugs screws etc. (P 44/I.6.6 ELE SR 2014-15) .	Each							
	20"x20"x2.5"		5				**5**	302.00	**1510.00**
20	Supplying and fixing of **LED type panel board indicating lamp** with required colour suitable for 220v A.C. 50 Hz 12/24v D.C. (P 48/I.6.36 ELE SR 2014-15)	Each							
			5				**5**	442.00	**2210.00**
21	Supplying fully automatic **star-delta starter** unit push buttontypewith suitablewires,3contactors,oneadjustable thermal timer mounted on a common base plate held in steel enclosure for use on 400/440 volts 3 phase and wired after fixing to the existing wooden board for motor.(P 44/I.6.2 ELE SR 2014-15)	Each							
	Above 15 HP upto 25 HP		5				**5**	8273.00	**41365.00**
22	Supplying and fixing single phase preve_nterusing necessary wires over an existing panel board suitable for motor up to 20 HP capacities. (P 44/I.6.3 ELE SR 2014-15)	Each							
			5				**5**	768.00	**3840.00**
23	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100v grade, multistrand Coppers with low conductorresistance single core cable in open or concealed system of wiring with specified IS 694: 1990 & confirmining to GTP of GROUP-A (P 44/I.2.5 ELE SR 2014-15)	Mtr							
			5	20.00			**100.00**	42.10	**4210.00**
24	Supplying,fixing and wiring heavy duty low voltage capacitors conforming to IS 2834. 3 phase, 400/440 volts grade, for power factor improvement of rotating machinery.Cost per KVAR (P 48/I.6.35 ELE SR 2014-15)	KVAR							
			5	4.00			**20.00**	414.00	**8280.00**

Sl. No.	Description of Item	Unit	No.	L	B	D	Qty.	Rate	Amount
25	Supplying and fixing miniature circuit breakers on existing MCB distribution boards using necessary fixing materials and 'C' Type curve, indicator ON/OFF,energy cross-3 with Short circuit breaking capacity of 10K and complete wiring as required confirming to IEC 60898 (P 47/I.6.16 ELE SR 2014-15)	Each							
	40-63Amps TPN		5				**5**	1936.00	**9680.00**
26	Supplying, fixing, wiring, earth electrode for grounding conduits, I.C. cutouts and other equipment's on the meter board using 40mm dia 2.90mm thick GI pipe 2.5 mtr long buried in a pit ... The pit should be filled with equal proportion of salt and charcoal 150mm all-round the pipe to complete depth. The connection from the pipe to the conduit etc., is to be established through GI wire of size as per ISI specification 7.3.3. of IS 732 using 12mm dia bolts, nuts, washers and check nuts etc., the pipe shall have 16 through holes of 122 mm dia (P 55/I.7.1 ELE SR 2014-15)	No							
			5				**5**	2727.00	**13635.00**
27	Supplying and fixing of class A **(medium duty) GI pipe** of wall thickness not less than 3.25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV. (P 62/I.7.12 ELE SR 2014-15)	Mtr							
			5	6.00			**30.00**	345.00	**10350.00**
28	Supplying of 1.1 **KV LT UG cable** having aluminum conductor PVC insulated, extruded inner sheathed, galvanized, steel strip (except 2CX10Sq.mm wire armoured) confirming to IS-3975:1990 (No. of Strip indicated in GTP) & extruded PVC outer sheathed armoured cable with specified IS-1554 Part-1:1988 & confirming to **GTP of GROUP-A**. (P 55/I.7.4 ELE SR 2014-15)	Mtr							
	4 core 10 sqmm		5	20.00			**100.00**	140.40	**14040.00**
29	Labour charges for laying of **1.1 KV class UG cable** in existing trench GI pipe / stoneware pipe / on wall / on pole as required. (P61 / I.7.8 ELE-SR 2014.15)	Mtr							
	In existing trench / duct.								
	6 sqmm to 16 sqmm		5	20.00			**100.00**	10.80	**1080.00**
30	Digging of **trench** of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc., complete.(As per Civil SR KSRB I-2, P-7) (P 61 / I.7.9 ELE-SR 2014-15)	Mtr							
	In soil (hard)		5	20.00			**100.00**	106.00	**10600.00**

Sl. No.	Description of Item	Unit	No.	L	B	D	Qty.	Rate	Amount
31	Supplying and fixing **L.T. cast Iron pot heads** suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc. (P 62 / I.7.13 ELE-SR 2014-15)	Each							
	16Sqmm		5				**5**	280.00	**1400.00**
32	Supplying & fixing of **Porcelain fuse** channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.(P 44 / I.6.7 ELE-SR 2014-15)	Each							
	63 Amps		5	6.00			**30.00**	234.00	**7020.00**
33	Bescom Deposit	Ls							**75000.00**
	Pipeline Work								
34	Cutting of road surface for pipeline trenches and disposing of the excavated stuff as directed including barricading, danger lighting etc. in the cement concrete road.. (P.269/ I .N 37.40 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19))	Cum							
			5	155.00	0.60	0.30	**139.50**	727.16	**101439.00**
	Basic Rate	686.00							
	Add Area Weightage 6%	41.16							
	Total	727.16							
35	KSRB 2-2.2: Earthwork excavation for foundation of buildings, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, **in hard soil** not exceeding 1.5 m. in depth including dressing the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50 m. after breaking of clods complete as per specifications. specification. No. KBS 2.1 (b) / 2.3.5 (P.6/I.2.4 PW, P & IWTD, BENGALURU CIRCLE - SR 2018-19)	Cum							
	For Pipeline Purpose		5	155.00	0.60	0.60	**279.00**	475.94	**132787.00**
	Basic Rate	449.00							
	Add Area Weightage 6%	26.94							
	Total	475.94							
36	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamp at 1.00 mtr spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete. (internal work exposed on wall) - 50mm nominal OD pipes (P.98/ I .N 13.85.6 PW, PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Mtr							
			5	155.00			**775.00**	492.90	**381998.00**
	Basic Rate	465.00							
	Add Area Weightage 6%	27.90							
	Total	492.90							

Sl. No.	Description of Item	Unit	No.	L	B	D	Qty.	Rate	Amount
37	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamp at 1.00 mtr spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement and testing of joints complete. (internal work exposed on wall) - 20mm nominal OD pipes(P.98/ I .N 13.85.2 PW, PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Mtr							
	Public Taps		70	2.00			**140.00**	166.42	**23299.00**
	Basic Rate	157.00							
	Add Area Weightage 6%	9.42							
	Total	166.42							
38	KSRB 13-6.1-2 : Providing and fixing in position brass bib cock of approved quality 20mm nominal bore including cost of all materials, labour and HOM of equipments with all leads complete as per specifications. Specification No. KBS 13.2.2 / 13.3 (P.93 / I .N 13.24 PW, PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Each							
			70	2			**140**	183.38	**25673.00**
	Basic Rate	173.00							
	Add Area Weightage 6%	10.38							
	Total	183.38							
39	KSRB 13-1.6: Providing and fixing to wall, ceiling and floor galvanised / mild steel tube 50mm dia nominal bore with fittings (medium grade weight 5.24kg/mtr) B class including cost of all materials, labour charges, HOM of equipments and testing complete as per specifications. Specification No. KBS 13.2.14 / 13.8(P.92 / I .N 13.6PW, PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Mtr							
			16	6.00			**96.00**	542.72	**52101.00**
	Basic Rate	512.00							
	Add Area Weightage 6%	30.72							
	Total	542.72							
40	KSRB 2-4: Refilling available earth around pipe lines, cables in layers not exceeding 20cms in depth, compacting each deposited layer by ramming after watering with lead upto 50m. and lift upto 1.5m. including cost of all labour complete as per specifications. (P.7/ I 2.11 PW,P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Cum							
			5	155.00	0.60	0.75	**348.75**	80.56	**28095.00**
	Basic Rate	121.00							
	Add Area Weightage 6%	7.26							
	Total	128.26							

Sl. No.	Description of Item	Unit	No.	L	B	D	Qty.	Rate	Amount
13	KSRB 4-1.6 : Providing and laying in position plain cement concrete of mix 1:2:4 with cement @ 240kgs, with 20mm and down size graded granite metal coarse aggregates @ 0.878cum and fine aggregates @ 0.459cum, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation, plinth and cills, including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2 (P.13/I.4.6 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Cum							
			5	155.00	0.60	0.15	**69.75**	5747.32	**400876.00**
	Basic Rate	5422.00							
	Add Area Weightage 6%	325.32							
	Total	5747.32							
43	KSRB 13-7.1-5 : Providing and fixing in position 65mm nominal bore gun metal non-return valve horizontal type of approved make including cost of all materials, labour and HOM of equipments with all leads complete as per specifications. Specification No. KBS 13.2.10 / 13.13(P.No 95 / Sl.No.13.56 PW, P & IWTD,BENGALURU CIRCLE - SR 2018-19)	Nos							
			12				**12**	1831.68	**21980.00**
	Basic Rate	1728.00							
	Add Area Weightage 6%	103.68							
	Total	1831.68							
					SUB - TOTAL AMOUNT RS.				**4421591.00**
23	G.S.T Charges (12%)								**530590.92**
24	PMC and Third Party Inspection Charges (1%)								**44215.91**
25	Miscellaneous,TenderPremium Charges and Unforeseen Charges	Ls							**3602.17**
					TOTAL AMOUNT RS.				**5000000.00**
	(Rupees Fifty Lakhs Only)								

CERTIFICATE :

1 The work spot has been inspected and found to be necessary.
2 The work spot comes under BBMP Limits.
3 The provisions made in the estimate are necessary and minimum.
4 The estimate is based on PHE SR 2012- 13 ,PWD ELE SR 2014-15 ,& PW, P & IWTD, BENGALURU CIRCLE - SR 2018 -19.

Assistant Engineer
Project

Assistant Executive Engineer
Project Division
Yelhanka Zone
BBMP Bangalore

Executive Engineer
Project Division
Yelhanka Zone
BBMP Bangalore

Administrative Approval

Accorded For Rs.50 lakhs only
Head of A/C P.3293
CER NO : 180 Dt: 17.02.19

TA CE (YNK)

Technical Sanction

Accorded For Rs.50 lakhs only
Head of A/C P.3293
CER NO : 253 Dt: 17.02.2019

TA CE (YNK)